

## REMARKS

The Official Action of 17 November 2004 has been carefully considered and reconsideration of the application as amended is respectfully requested.

The courtesy of Examiner Jiang in discussing this application with the undersigned in a telephone interview on February 7, 2004 is gratefully acknowledged. In the interview, Applicants emphasized (a) the difference in release characteristics between the claimed beads and the beads described in the cited primary reference of record, Connick, and (b) the criticality of incorporating gelatin, as opposed to another surfactant, into the claimed beads to impart desirable release characteristics, as shown by the Declaration of Professor Shlomo Magdassi of record. Applicants also discussed with the Examiner proposed amendments to the claims to emphasize these distinctions, notably the recitation that the beads are present in an aqueous dispersion and the recitation of product-by-process recitations to link the release characteristics to the method of preparation of the beads. The Examiner agreed to consider such proposed recitations and advised that, with product-by-process recitations, Applicants have the burden of showing that a product formed by the claimed process structurally distinguishes from the prior art product. The Examiner invited the Applicants to point to specific portions of the Magdassi Declaration that might show this.

Applicants have now amended the claims with the incorporation of the recitations formerly recited in claim 104 (now canceled) so that all claims now recite that the claimed water insoluble beads are dispersed in water. Moreover, Applicants have also amended

the claims to recite that the polymer in the claimed polymer matrix comprises a cross linked polymer in accordance with the description in the specification as filed at, for example, page 2, last full paragraph. The dependent process of preparation claims have been rewritten as product-by-process claims and all now recite a cross linking step (see claim 76). Nevertheless, since the independent claims do not rely on product-by-process limitations to distinguish over the prior art, the initial burden is on the USPTO to show that the prior art teaches the product defined by these independent claims (see MPEP Section 706.02(j)). It is respectfully submitted, the Examiner cannot meet this burden, as next discussed.

The claims stand rejected under 35 USC 103(a) as allegedly being unpatentable over Connick and Nitto Electric Ind Co. in view of Cohen et al and Meinke et al. Applicants respectfully traverse these rejections.

As discussed at the interview, the primary reference, Connick, discloses at most that the beads described therein can be made to float or sink in an aqueous environment. This is in accordance with the disclosure in Connick that the beads are introduced into aqueous environments for the purpose of **releasing** their contents into such environments (see Connick at column 6, lines 29-37: "a sinking material can be applied to kill submerged aquatic weeds, a floating material can release herbicide in close proximity to floating aquatic weeds. . ."). In teaching that the beads described therein **release** their contents in an aqueous environment, Connick **teaches away** from making the beads **insoluble** and also teaches away from a **dispersion** of the beads.

In this respect, the Connick beads are intended to be applied, for example, in bodies of water comprising submerged or floating aquatic weeds to release the beads near the target species (Connick at column 6, lines 29-31). There would have been no motivation to make the beads insoluble since this would defeat the purpose of a targeted release of bioactive material at a target site (see MPEP Section 2143.01: "The Proposed Modification Cannot Render the Prior Art Unsuitable For Its Intended Purpose."). There also would have been no motivation in having the beads dispersed in such bodies of water since, rather than being concentrated at the target site, the beads would, by definition, be dispersed and would thereby be ineffective for the intended purpose. It is only through hindsight, with the aid of the teaching in the present specification that the claimed beads should be insoluble and stored as an aqueous dispersion (specification at page 2, lines 10-13), that one of skill in the art would have been motivated to create the claimed dispersion of water insoluble beads.

In light of the above, it is respectfully submitted that there could have been no motivation, absent the hindsight provided by the present specification, to combine the cited references as proposed by the Examiner to make a dispersion. Moreover, there would have been no motivation to provide a cross linked polymer in the polymer matrix of the claimed beads. In this respect, and as shown by the Magdassi Declaration, the cross linking of the polysaccharide in the claimed beads causes the gelatin to be entrapped inside the beads and thereby provides the beads with their desirable release characteristics, including water insolubility (see photographs attached to the Magdassi Declaration and paragraph 5 of the Declaration: "the gelatine is present in the whole field, meaning that it is not just adsorbed on the oil droplets, as do conventional

surfactants." ). Since the Connick reference teaches the desirability of release of the bead contents in water, Connick teaches away from a cross linked polymer matrix which prevents release of the bioactive material in water.

In the absence of a motivation to combine the references, as proposed by the Examiner, it is respectfully submitted that the references cannot set forth even a *prima facie* case of obviousness for the invention as now claimed. Moreover, even assuming for the sake of argument that the references were properly combinable, it is respectfully submitted that the evidence of record in the Magdassi Declaration would be sufficient to overcome such any such *prima facie* case. In this respect, Connick describes that the capsules described therein may include additives, including surfactants, but does not teach or suggest the use of gelatin, does not distinguish between different surfactants and does not suggest that the type of surfactant is a result effective variable.

In contrast, the Magdassi Declaration establishes that gelatin can significantly inhibit the **release** of an active compound in the claimed beads as compared with a different surfactant. The declaration thus establishes the criticality of the gelatin with respect to the release characteristics of the claimed beads. This property could not have been expected from Connick, which does not suggest that a surfactant, if included in the described beads, would have any effect other than its normal one in reducing surface tension. Moreover, since gelatin typically has a high solubility in water, the advantageous release characteristics shown in the Declaration *a fortiori* would not have been expected in a water insoluble bead.

The Examiner has previously discounted the evidence in the Magdassi Declaration on the basis that the declaration compares gelatin with only one other type of surfactant (see Official Action of April 21, 2004 at paragraph bridging pages 8 and 9). However, the closest prior art reference, as represented by Connick, does not disclose any particular type of surfactant. Accordingly, there is and can be no requirement that Applicants compare the claimed surfactant with **all** other types of surfactants to rebut the alleged *prima facie* case (see MPEP Section 716.02(e)): "Although evidence of unexpected results must compare the claimed invention with the closest prior art, applicant is not required to compare the claimed invention with subject matter that does not exist in the prior art. *In re Geiger*, 815 F.2d 686, 689, 2 USPQ2d 1276, 1279 (Fed. Cir. 1987)."). The Magdassi Declaration compares the claimed bead with one that is closer than the closest bead described or exemplified in the reference and thus is probative of nonobviousness and sufficient to overcome any alleged *prima facie* case of obviousness set forth by the cited art (see MPEP Section 716.02(e)).

In view of the above, it is respectfully submitted that all rejections and objections of record have been overcome and that the application is now in allowable form. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,

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